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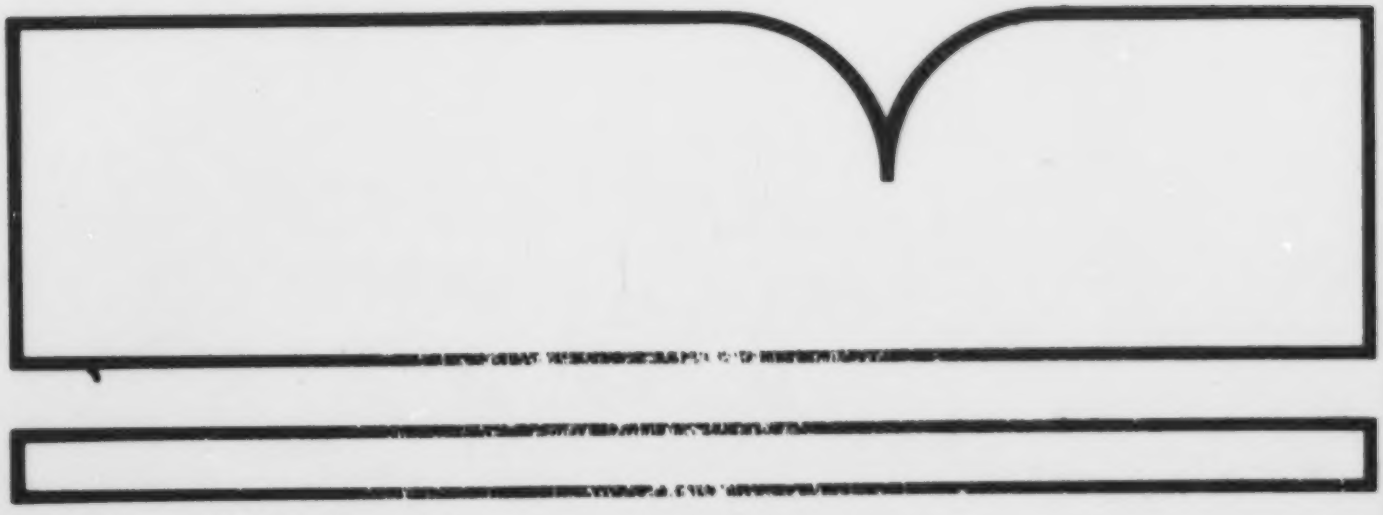
Regulations and Non-Regulatory Revisions to State Implementation Plan: Rhode Island

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
Research Triangle Park, NC

Oct 81



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EPA-450/2-81-059
July 1981

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EPA-450/2-81-059

Regulations and Non-Regulatory Revisions to State Implementation Plan: Rhode Island

By

Atlantic Environmental Associates, Inc.
59 Vernon Street
Waltham, MA 02154

Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

Prepared for

U.S ENVIRONMENTAL PROTECTION AGENCY
Control Programs Development Division
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

July 1981

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16. ABSTRACT

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the Federal Register; regulations promulgated as of August 1, 1981 have been included in this document.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes.

The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
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PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document

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* Regulations and Non-Regulatory Revisions to State Implementation Plan: Rhode Island, EPA-450/2-80-046, prepared under Contract 68-02-3388, July 31, 1980.

according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF RHODE ISLAND SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
05/07/81	06/11/79	46FR25446	Revisions to Regulations 11, 18, 13, 15. (Note: Regulations 13, 15, no action).
05/07/81	01/08/80	46FR25446	Regulation 19 (Air quality management approved 11/15/81).
05/07/81	03/10/80	46FR25446	Regulation 11, Petroleum Liquids Marketing and Storage.
05/07/81	11/14/80	46FR25446	Draft of Regulation 9 Approval to Construct, Install, Modify or Operate.
05/07/81	04/16/81	46FR25446	Final version of Regulation 9.

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REGULATIONS ON VISIBLE EMISSIONS, HANDFIRING OF SOFT COAL, PARTICULATE EMISSIONS, OPEN FIRES, PREVENTING PARTICULATE MATTER FROM BECOMING AIR-BORNE, AIR CONTAMINANT DETECTORS AND EMISSION OF AIR CONTAMINANTS DETRIMENTAL TO PERSON OR PROPERTY

1. Visible Emissions

No person shall discharge into the atmosphere from any single source any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark as or darker than that shade designated No. 1 on the Ringelmann Chart, published by the United States Bureau of Mines, or the same shade designation on a photographic copy of the Ringelmann Chart reduced to one-eighteenth of the size of the original, for convenient use in the field.

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does an air contaminant described in Subsection (a) of this rule.

2. Handfiring of Soft Coal

It shall be unlawful to use, to import, sell, offer for sale, expose for sale, exchange, deliver or transport for use or consumption in a hand fired installation in the State of Rhode Island any solid fuel other than coke or anthracite coal. Anthracite coal shall be defined by the ASTM Standards of 1938. This ruling does not apply to indoor fireplaces. Any coal having a dry basis volatile content greater than that of anthracite coal may be imported, sold, offered for sale, exposed for sale, exchanged, delivered or transported, used or consumed in the State of Rhode Island only in approved mechanical fuel burning equipment. Any solid fuel containing volatile matter greater than that of anthracited coal on a dry basis shall, within the discretion of the Director, be acceptable under the terms of these rules and regulations provided that it meets the same standard in regard to smoke production as does anthracite coal. In order to ascertain whether or not such standards are met, anyone applying for the use of such solid fuel shall submit (1) Complete plans and specifications of such process to the Director, and from time to time any additional information he may reasonably require regarding the product. (2) An adequate supply of the finished product must be made available to the Director to conduct whatever tests he deems necessary to establish its value as a smokeless solid fuel. Any person, firm or corporation whose product is submitted to such tests must pay in advance all expenses necessary thereto.

3. Particulate Emissions

No person shall discharge in any one hour, from any source, particualte emissions in a total amount in excess of that shown in the following table (see next page) opposite the applicable process weight. In entering the table, the process weight per hour used is the total weight of all materials introduced into any specific process which may cause any emissions into the atmosphere except liquid and gaseous fuels and combustion air. "The Process Weight Per Hour" will be determined by

TABLE

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation: $E=4.10\ P^{0.67}$, and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation: $E=55.0\ P^{0.11} - 40$, where E = rate of emission in lb/hr and P= process weight rate in tons/hr

dividing the total process weight by the number of hours in one complete operation, excluding any time during which the equipment is idle.

4. Open Fires

It shall be unlawful for any person to burn any material in an open fire on premises operated as a public or semi-public refuse disposal facility, at other central refuse disposal sites, or in connection with any salvage, industrial, commercial, or institutional operation.

5. Preventing Particulate Matter From Becoming Air-Borne

(a) No person shall cause or permit particulate matter to be handled, transported or stored in a manner which allows or may allow the particulate matter to become air-borne.
(b) No person shall cause or permit a building or its appurtenances or a road to be constructed, altered, repaired, or demolished without taking such precautions as may be required by the Director to prevent particulate matter from becoming air-borne.
(c) No person shall cause or permit untreated open areas to be maintained without taking reasonable precaution to prevent particulate matter from becoming air-borne.

6. Air Contaminant Detectors

All power plants burning residual oil and all plants of one million Btu/hr capacity or over, burning solid fuel shall be equipped with photo-electric audio contaminant detector devices, which shall be maintained in good working order and operated continuously during all burning.

7. Emission of Air Contaminants Detrimental to Person or Property

No person shall emit any contaminant which either alone or in connection with other emissions, by reason of their concentration and duration may be injurious to human, plant or animal life, or cause damage to property or inconvenience to property owners, or create a disagreeable or unnatural odor or obscure visibility or which in any way interferes with the enjoyment of life and property.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH
REGULATIONS ON LIMITING SULFUR CONTENT OF FUELS

8. Limiting Sulfur Content of Fuels*

8.1 Definitions: As used in these regulations, the following terms shall, where the context permits, be construed as follows:

8.1.1 "Fuel" means a material used for the purpose of producing heat, steam or power.

8.1.2 "Low Sulfur Fuel" means a fuel containing 0.55 pounds or less of sulfur per million BTU heat release potential.

8.1.3 "High Sulfur Fuel" means a fuel containing more than 0.55 pounds of sulfur per million BTU heat release potential.

8.1.4 "Stack" or "chimney" means a flue, conduit or opening to provide for the emission of particulates or gases into the open air.

8.1.5 "Approved stack-gas cleaning process" means a process, approved by the director, which removes sulfur dioxide from the products of combustion of fuel.

8.1.6 "BTU" means British thermal unit; it is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.

8.2 On and after October 1, 1971 unless the director declares in writing that a shortage of low sulfur fuel exists, no person, except as provided in Sections 8.3 and 8.4, shall store for sale, offer for sale, sell or deliver for use in Rhode Island, and no person shall use or store high sulfur fuel provided, however, that any person who on the date of promulgation of these regulations has in his possession within this state a supply of high sulfur fuel may sell or deliver for use or use the same within this state at any time prior to March 1, 1972.

8.3 The director may approve the use of high sulfur fuel when combined with an approved stack-gas cleaning process, provided the sulfur compound emissions (expressed as sulfur dioxide) from the stack or chimney do not exceed 1.1 pounds per million BTU gross heat input, and the person using such process gives evidence satisfactory to the director that the emissions do not exceed the requirements of this Section.

8.4 Any person seeking to store for sale, sell or deliver for use in Rhode Island high sulfur fuels under the conditions described in Section 8.3 shall obtain the prior approval of the director in writing.

8.5 The provisions of Sections 8.1 through 8.4, both inclusive, shall not apply to the use of fuels by vessels.

8.6 The director may require the collection under his supervision of fuel samples for his analyses or may require the submission of fuel samples and/or fuel analyses to ensure compliance with the provisions of Section 8.2 through 8.4, both inclusive.

*Revision to sulfur content in fuels for Narragansett Electric Co.
See non-regulatory Federal Register Publication 1/21/81

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF AIR AND HAZARDOUS MATERIALS

AIR POLLUTION CONTROL REGULATION NO. 9

APPROVAL TO CONSTRUCT, INSTALL, MODIFY OR OPERATE

9. Approval to Construct, Install, Modify or Operate

9.1 Definitions

As used in these regulations, the following terms shall, where the context permits, be construed as follows:

9.1.1 "Major source" means any building, structure, facility, installation or equipment which emits or has the potential to emit 100 tons per year of any air contaminant.

9.1.2 "The potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design unless limited by conditions of an approved construction and operating permit.

9.1.3 "The potential to emit 100 tons per year of any regulated air contaminant" shall be calculated by using the design efficiency of any approved air pollution control equipment and shall be based on one of the following assumptions:

(a) The source of emissions shall be assumed to operate 24 hours a day, 365 days a year,

(b) The emissions will be based on the number of hours indicated in a construction and operating permit, or

(c) The emissions will be based on the average number of hours that a source has operated in the previous five years provided:

(1) the source has actual emissions of less than 100 tons per year over this time period, and

(2) the source agrees to apply for an operating permit and observe the rules as outlined in Sections 9.6 and 9.7 of this regulation.

9.1.4 "Modify" means to make or to have made any physical or operational change or series of

changes to any source or air pollution control system whose cumulative effect may result in an increase of emissions of any air contaminant to the atmosphere. The following shall not be considered a modification:

(a) Routine maintenance, repair or replacement of parts of any source or air pollution control system as described in Subsection 9.3.1.

(b) Increases in the production rate of any source of air pollution control system as described in Subsection 9.3.1, conditioned on the following:

(1) The increase results in a smaller quantity of emissions than allowed in the operating permit issued under Section 9.7 of this regulation, or

(2) In the event the source does not qualify for an operating permit, the increases are based solely upon the capabilities of existing process equipment.

(c) Increase in hours of operation up to the maximum specified in the operating permit issued under Section 9.7 of this regulation, or

(d) Use of an alternative fuel or raw material if the source or air pollution control system was originally designed to accommodate the use, it was approved by the Director, and an operating permit was issued, if applicable.

9.1.5 "Major modification" means any physical change or change in the method of operation of a source or air pollution control system modified since 7 August 1977 whose cumulative effect will increase the potential to emit any regulated air contaminant by 100 tons or more per year.

9.1.6 "Air pollution control system" means a system, device or equipment designed and installed primarily for the purpose of reducing or eliminating the emission of air contaminants to the atmosphere.

9.1.7 "Nonattainment area" for any air pollutant means an area which is shown by monitored data or is calculated by air quality modeling, based on

monitored data, to exceed any national ambient air quality standard for such pollutant and has been designated as such in the Federal Register.

9.1.8 "Lowest achievable emission rate" means that rate of emissions which reflects the most stringent emission limit action:

(a) contained in any State Implementation Plan for each category of source, unless the owner or operator of the proposed source demonstrates that such a limitation is not achievable, or

(b) which is achieved in practice by each class or category of source, whichever is more stringent, providing the approved emission limit is no higher than the limitation called for in a New Source Performance Standard.

9.1.9 "Growth Allowance" means the total amount of volatile organic compound emissions that may be emitted in a given year that are not subject to the emission offset requirements of this regulation. The Growth Allowance (G.A.) for any particular year can be defined by the following expression:

(a) Growth Allowance = (G.A) = Projected Emission (P.E.) for year in question + Carryover Emissions (C.E.) (from previous years)

(b) Carryover Emission (C.E.) are defined as the summation of the differences between the projected emissions and the actual emissions that have been determined through annual departmental emission inventories for all years subsequent to and including 1977 as expressed by the following:

$$C.E. = \underset{1977}{(P.E. - A.E.)} + \underset{1978}{(P.E. - A.E.)} + \ldots + \underset{\text{year of most recent emission inventory}}{(P.E. - A.E.)}$$

(c) Projected Emission (P.E.) are defined as those emissions that are projected for the nonattainment period and are found in the State Implementation Plan.

(d) Actual Emissions (A.E) are defined as those emissions that are calculated as a result of an emission inventory conducted by the

of this regulation for all major sources, all sources notified by the Director, all sources making or having made major modifications and all existing sources identified in Subsection 9.3.1 that have the potential to emit one hundred tons or more per year of any air contaminant.

9.4 Application for Appproval of Plans to Construct, Install or Modify

9.4.1 Application for approval of plans to construct, install or modify shall be made in duplicate by the owner or operator of any source described in Subsection 9.3.1 on forms furnished by the Director and shall be signed by:

(a) an officer of the corporation if the applicant is a corporation, or

(b) one individual who is a member of the group if the applicant is a partnership or a group other than a corporation.

9.4.2 A separate application, in duplicate, is required for each source and air pollution control system described in Subsection 9.3.1.

9.4.3 Each application shall be accompanied by one set of plans, specifications and all other relative data that may be required by the Director to show:

(a) how the source is designed and in what manner it will be operated and controlled, and

(b) that approval of the application will not prevent the maintenance or attainment of any applicable ambient air quality standard or prevent the achievement of other air quality goals.

9.5 Administrative Action: Permits to Construct, Install or Modify

9.5.1 The Director shall act on a completed application for approval of plans to construct, install or modify within forty-five (45) days of its receipt and shall notify the applicant in writing of any action taken, including:

(a) Approving the application and notifying the applicant on the applicable subsections of this regulation with which the applicant

or waste oil having a heat input capacity of one million BTU or more per hour.

(b) Liquid petroleum storage tanks, reservoirs and containers with a capacity of forty thousand gallons or more used for the storage of petroleum liquids having a true vapor pressure greater than 1.52 psia at 69 degrees F.

(c) Any incinerator, except as exempted in Subsection 9.2.3 (a),

(d) Any other source or process except for those outlined in section 9.3.1(a) having the potential to emit one hundred pounds or more per day or ten pounds or more per hour of any regulated air contaminant or combination of air contaminants into the atmosphere, including but not limited to the following categories:

(1) Surface coating, spray and dip painting, roller coating, knife coating and electrostatic depositing,

(2) Metal cleaning or surface preparation, degreasing, bright dipping, stripping, galvanizing and chrome plating,

(3) Textile dyeing and finishing, including tenter frames, dryers, printers and solvent dyers

(4) Glass or fiberglass manufacturing, including melting furnaces, forming lines, curing ovens and product cooling lines,

(5) The production of asphalt concrete, including rotary dryers, screening and conveying systems and mixers,

(6) The production of metal castings, including cupolas, reverberatory furnaces, electric furnaces, crucible furnaces and sand handling systems, and

(7) The transfer of petroleum products having a true vapor pressure greater than 1.52 psia at 69 degrees F from the storage facility to or from a mobile vessel.

(e) Any pollution control system and appurtenances.

9.3.2 An operating permit from the Director is required as of six (6) months after the effective date

department.

9.2 Applicability and Exemptions

9.2.1 No person shall construct, install or modify or cause the construction, installation or modification of any source described in Subsection 9.3.1 without obtaining an approved construction permit from the Director.

9.2.2 No person shall operate or cause the operation of any major source or make any major modification to any source without an approved operating permit from the Director as of six (6) months after the effective date of this regulation.

9.2.3 Exemptions

(a) The provisions of this regulation shall not apply to:

(1) incinerators constructed, installed, modified or used in a owner occupied dwellings having less than three units

(2) incinerators used to burn or incinerate hazardous or extremely hazardous wastes, but such incinerators shall comply with the regulations that are promulgated under the Rhode Island Hazardous Waste Management Act concerning the burning of these materials.

9.3 Permits: Gereral Requirements

9.3.1 A permit to construct, install or modify is required fo the following:

(a) Fuel burning equipment designed to burn:

(1) Residual oil or solid fossil fuels having a heat input capacity of one million BTU or more per hour,

(2) All other liquid fuels having a heat input capacity of five million BTU or more per hour,

(3) Gaseous fuel having a heat input capacity of fifteen million BTU or more per hour, or

(4) Alternative fuels, including but not limited to, wood chips, hazardous wastes

must comply, or

(b) Notifying the applicant as to why the application has been denied.

9.5.2 If the application has been denied, the applicant may submit, in duplicate, answers to and comments on the Director's objections, and may request a hearing on the action. The Director shall consider the applicant's response and either affirm the prior decision or approve the application.

9.5.3 A permit to construct, install or modify shall allow the Director to:

(a) Inspect the source or air pollution control system to ensure that:

(1) it is located as shown on the equipment location drawing, and

(2) it is constructed and being operated as indicated on the application.

(b) Require the applicant to conduct emission tests to the specifications of the Director within sixty (60) days after the source or air pollution control system achieves its maximum or normal operating rate, but not later than one hundred eighty (180) days after initial start up,

(c) Require the applicant to install sampling ports such that emission testing can be conducted in a safe manner, and

(d) Include the conditions outlined but not limited to those in Subsection 9.7.2.

9.5.4 An applicant may apply for an extension of time limit by filing a written request to the Director stating the reasons for the request. Extensions may be granted for a period of not more than six (6) months.

9.5.5 The Director shall cancel or revoke a construction permit under the following conditions:

(a) If construction, installation or modification has not commenced within one (1) year from its date of issuance,

(b) If the work involved in the construction,

installation or modification has been suspended for one (1) year or more,

(c) If results of an emission test would indicate that emission standards cannot be achieved,

(d) If the applicant has violated any of the permit that would cause the source or air pollution control system to operate in such a manner that emission limitations could not be achieved, or

(e) If the applicant has not secured the emission offsets required under Sections 9.9.2(b) and 9.9.3(c) and 9.9.3(d).

9.5.6 If the construction permit has been cancelled or revoked, the applicant or holder of the permit may submit, in duplicate, a written request to the Director for the reasons for its cancellation or revocation, and may request a hearing on the action.

9.6 Application for Operating Permit

9.6.1 Applications for an operating permit shall be made in duplicate by owners of all sources identified in Subsection 9.3.2 on forms furnished by the Director and shall be signed by:

(a) An officer of the corporation if the applicant is a corporation, or

(b) One individual who is a member of the group if the applicant is a partnership or a group other than a corporation.

9.6.2 An owner of a source may make a written request for an explanation from the Director on the methodology used in determining the source's potential to emit one hundred tons of any air contaminant per year. The Director shall respond in a timely manner to all written inquiries concerning the issue.

9.7 Administrative Action: Operating Permits

9.7.1 The department shall inspect the source to determine if the conditions of the permit to construct, install or modify have been satisfied. If such an inspection determines that all the conditions have been satisfied, an operating permit shall be issued by the Director.

9.7.2 The Director may impose reasonable conditions on an operating permit, including but not limited to:

(a) Maximum yearly hours of operation,

(b) Maximum allowable emissions from the source,

(c) Operation and maintenance criteria that are necessary to ensure that the maximum allowable emissions from the source are not exceeded,

(d) Instrumentation to monitor and record emission data,

(e) Operation of the source in a manner to ensure that attainment or maintenance of applicable state or national ambient air air quality standards will not be violated, and

(f) Operating permits shall be posted for easy access at the site of operation.

9.7.3 Operating permits initially shall be issued for a time period of between one and five years. The holder of an operating permit must make a written request for its renewal at least one hundred twenty (120) days prior to its expiration date. Thereafter, the operating permit may be reissued for a five-year time period.

9.8 Transfer of an Operating Permit

9.8.1 Operating permits may not be transferred unless the holder receives written permission from the Director.

9.8.2 The new owner, operator, or person to whom the operating permit is transferred shall be responsible for complying with all applicable regulations and conditions of the permit.

9.9 Non-attainment Areas: Standards for Approving Plans to Construct, Install or Modify

9.9.1 For applications for new sources or modifications to existing sources which have the potential to to emit 100 tons or more of volatile organic compounds per year and are located in a non-attainment area with respect to the ozone standard, and for which the Director has determined that ap-

proval of the application will not cause the Growth Allowance to be exceed, the following conditions must be met:

(a) The major source must meet an emissions limitation that is considered the lowest achievable emission rate for this source as prescribed by the Director. This lowest achievable emission rate will be based on technological factors and can be in the form of a numerical emissions standard or a design, operational or equipment standard nd this requirement shall be a condition of the construction permit for such sources.

(b) The applicant must certify that all existing major sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) located within the state are in compliance with all applicable state and federal air pollution rules and regulations and compliance schedules.

(c) The applicant must submit an analysis of alternative sites, sizes, production processes and environmental control techniques for such proposed source which demonstrates that the benefits of the proposed source significantly outweigh the environmental and social cost imposed as a result of its location, construction, installation or modification.

9.9.2 For applications for new sources or major modifications to existing sources which have the potential to emit 100 tons or more of volatile organic compounds per year and are located in a non-attainment area with respect to the ozone standard, and for which the Director has determined that approval of the application will cause the Growth Allowance to be exceeded, the following conditions must be met.

(a) Subsections 9.9.1(a), (b), and (c) of this regulation,

(b) The major source must provide evidence in accordance with Section 9.11 that it has reduced or has caused the reduction of emissions in sufficient quantities to offset the increase in emissions that will

considered together with the rest of the State Implementation Plan, represent Reasonable Further Progress.

9.10 Growth Allowance

9.10.1 The Growth Allowance shall be governed by the following conditions:

(a) The Growth Allowance shall be calculated by the department by July 1 each year based on the results of the previous year's volatile organic compound emission inventory,

(b) The baseline year for determining the Growth Allowance shall be 1977 for volatile organic compounds,

(c) The emissions calculated by the Growth Allowance shall be distributed on a first-come-first-served basis based on the information that is required by the application for approval of plans to construct, install or modify,

(d) No source will be allowed to consume more than 35 percent of the remaining Growth Allowance for the year the source will begin to operate.

9.11 Emission Offset Demonstration

9.11.1 An emission offset may be approved by the Director if the applicant can present technical support to demonstrate that the overall effect of granting approval of plans to construct, install or modify:

(a) will represent, when considered together with the rest of the State Implementation Plan, Reasonable Further Progress for those pollutants responsible for the area's non-attainment status, and

(b) for area designated attainment for SO2, TSP, NO2, and CO will not cause a net increase in concentration above the significant levels as listed in Subsection 9.9.3(b).

9.11.2 Emission offsets can be achieved by reducing current emissions of the source to a point below the emission limitations of regulations in effect at the time of submission of the application by:

result from the approval of the application,

(c) When the Director determines that the Growth Allowance has been exceeded, a finding will be made at that time concerning the emission offset ratio that will be used.

(d) The emission offsets must:

(1) Be approved by the Director, and be part of a construction permit, or otherwise made part of the federally approved SIP.

(2) Be effective prior to the issuance of the construction permit.

9.9.3 For applications from new sources or modifications to existing sources that are located in a non-attainment area with respect to the total suspended particulate (TSP), sulfur dioxide (SO2), nitrogen dioxide (NO2) and carbon monoxide (CO) standards, the applicant must:

(a) Meet the conditions of Subsections 9.9.1(a), (b) and (c),

(b) Provide data to show that the emissions from the source will not significantly increase the level of the pollutant that is responsible for the nonattainment status above the following significant levels:

	Averaging Time				
Pollutant	Annual	24-Hr	8-Hr	3-Hr	1-Hr
SO2 (ug/m^3)	1.0	5	-	25	-
TSP (ug/m^3)	1.0	5	-	-	-
NO2 (ug/m^3)	1.0	-	-	-	-
CO (mg/m^3)	-	-	0.5	-	2

(c) Modifications to existing sources, and new sources which are not major must meet the conditions of Subsections 9.9.2(b) and (d) in the event data are presented that show the emission levels listed in Subsection 9.9.3(b) are exceeded,

(d) Major new sources and major modifications must meet the conditions of Subsections 9.9.2(b) and (d) and, where applicable, demonstrate that the emission offsets, when

(a) installing additional air pollution control equipment on an existing source currently operating but considered in compliance with regulations,

(b) initiating a process change that will result in a reduction of emissions,

(c) applying fugitive emission control measures that reduce actual emissions to less than is allowed by applicable regulations in effect at the time of application,

(d) switching to different type of fuel that will result in an emission rate in effect at the time of application, if the applicant can demonstrate that:

(1) an adequate long-term supply of the new fuel is available, or

(2) the use of a specified alternative air pollution control measure would achieve the same degree of emission control in the event the source should switch to the original fuel at a later date,

(e) permanently curtailing production or operating hours below levels that are specified in an operating permit issued by the department,

(f) permanently shutting down a facility, process or a source of emissions that is included in the state emissions inventory,

(g) establishing and supporting employer business travel control measures or employee commuter travel control measures that have quantifiable emission reductions that must by enforceable and not be already required by the Transportation Element of the State Implementation Plan, or

(h) adopting any other measures that can be used for emission offsets that have been approved by the Director.

9.11.3 Offset credit will not be given for the following:

(a) Emission reductions that result from complying with existing or new rules and regulations, new source performance standards, and national emission standards for hazard-

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH
AIR POLLUTION EPISODE REGULATIONS

10. Air Pollution Episodes

10.1 Episode Criteria

Conditions justifying the proclamation of an air pollution alert, air pollution warning or air pollution emergency shall be deemed to exist whenever the director determines that the accumulation of air pollutants in any place is attaining or has attained levels which could, if such levels are sustained or exceeded, lead to a substantial threat to the health of persons. In making this determination, the director will be guided by the following criteria:

(a) "Air Pollution Forecast": An internal watch by the Division of Air Pollution Control shall be actuated by a National Weather Service advisory that Atmospheric Stagnation Advisory is in effect or the equivalent local forecast of stagnant atmospheric condition.

(b) "Air Pollution Alert": The Alert level is that concentration of pollutants at which first stage control actions is to begin. An Alert will be declared when any one of the following levels is reached at any monitoring site:

SO_2 --500 ug/m^3 (0.11 ppm), 24-hour average.

Particulate-- 3.0 COHs, 24- hour average.

SO_2 and Particulate Combined -- Product of SO_2 (ppm) for a 24-hour average and Particulate (COHs) for a 24-hour average equal to 0.2.

CO -- 17 mg/m^3 (15 ppm), 8-hour average.

Oxidant (O_3) -- 200 ug/m^3 (0.1 ppm), 1-hour average.

NO_2 -- 1130 ug/m^3 0.6 ppm), 1-hour average, 282 ug/m^3 (o.15 ppm), 24-hour average.

and meteorological conditions are such the pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken.

(c) "Air Pollution Warning": The Warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached at any monitoring site:

SO_2 -- 800 ug/m^3 (0.25 ppm), 24-hour average.

Particualte -- 5.0 CHOs, 24-hour average.

(For applications whose approval will cause a source's emissions to impact an attainment area.)

ous air pollutants promulgated by the department or the U.S. Environmental Protection Agency,

(b) Increasing the stack height of a source beyond good engineering practice as defined by the U.S. Environmental Protection Agency,

(c) The reduction of different pollutants, e.g. an increase in TSP emissions cannot be offset by a reduction of SO2 emissions,

(d) Process changes whereby materials that exhibit low photochemical reactivity are substituted for materials having higher photochemical reactivity,

(e) Reductions of volatile organic compound emissions from November 1 to March 31 of any year to substitute for emission increases that occur during the rest of the year.

9.11.4 The following sources shall be exempt from the emission offset requirements:

(a) Resource recovery facilities burning municipal solid wastes,

(b) Pilot plants and portable facilities that will be in operation for less than six consecutive months,

(c) Facilities utilizing alternative fuels in existing fuel burning equipment such that:

(1) the equipment was capable of burning such fuel before 21 December 1976, or

(2) the equipment must use such fuel by reason of an order in effect under Section 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (15 USC 791 et seq.) or under any superseding legislation, or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act (16 USC 460 et seq.), or

(3) the alternative fuel is to be used by reason of an order or rule issued under the provisions of Section 125 of the Clean Air Act as amended August 1977 (42 USC 7425).

9.13 Prevention of Significant Deterioration (Reserved)

SO_2 and Particulate Combined -- Product of SO_2 (ppm) for a 24- hour average and Particulate (COHs) for a 24-hour average equal to 0.8.

CO -- 34 mg/m^3 (30 ppm), 8-hour average.

Oxidant (03) -- 800 ug/m^3 (0.4 ppm), 1-hour average.

NO_2 -- 2260 ug/m3 (1.2 ppm), 1-hour average, 565 ug/m^3 (0.3 ppm), 24-hour average

and meteorological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken.

(d) "Air Pollution Emergency": The Emergency level indicates that air quality is continuing to degrade to a level that should never be reached and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site:

SO_2 -- 1309 ug/m^3 (0.5 ppm), 24-hour average.

Particulate -- 7.0 COHs, 24-hour average.

SO_2 and Particulate Combined -- Product of SO_2 (ppm) for a 24-hour average and Particulate (COHs) for a 24-hour average equal to 1.2.

CO -- 46 mg/m^3 (40 ppm), 8-hour average.

Oxidant (03) -- 1200 ug/m^3 (0.6 ppm), 1-hour average.

NO_2 -- 3000 ug/m^3 (1.6 ppm), 1-hour average, 750 ug/m^3 (0.4 ppm), 24-hour average.

and meteorological conditons are such that this condition can be expected to continue for twelve (12) or more hours.

(e) "Termination": Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time, the next lower status will be assumed.

10.2 Emission Reduction Plans

(a) Air Pollution Alert - When the governor declares an Air Pollution Alert, any person responsible for the operation of a source of air pollutants as set forth in Table I shall take all Air Pollution Alert actions as required for such sources of air pollutants and shall put into effect the preplanned abatement strategy for an Air Pollution Alert.

(b) Air Pollution Warning - When the governor declares an Air Pollution Warning, any person responsible for the operation of a source of air pollutants as set forth in Table II shall take all Air Pollution Warning actions as required for such sources of air pollutants and shall put into effect the preplanned abatement strategy for an Air Pollution Warning.

(c) Air Pollution Emergency - When the governor declares an Air Pollution Emergency, any person responsible for the operation of a source of air pollutants as described in Table III shall take all Air Pollution Emergency actions as required for such sources of air pollutants and shall put into effect the preplanned abatement strategy for an Air Pollution Emergency.

(d) When the governor determines that a specified criteria level has been reached at one or more monitoring sites solely because of emissions from a limited number of sources, he shall notify such source(s) that the preplanned abatement strategies of Tables I, II and III or the standby plans are required, insofar as it applies to such source(s), and shall be put into effect until the criteria of the specified level are no longer met.

10.3 Preplanned Abatement Strategies

(a) Any person responsible for the operation of a source of air pollutants as set forth in Tables I-III shall prepare standby plans for reducing the emission of air pollutants during periods of an Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency. Standby plans shall be designed to reduce or eliminate emissions of air pollutants in accordance with the objectives set forth in Tables I-III which are made a part of this section.

(b) Any person responsible for the operation of a source of air pollutants not set forth under section 10.3(a) shall, when requested by the director in writing, prepare standby plans for reducing the emission of air pollutants during periods of an Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency. Standby plans shall be designed to reduce or eliminate emissions of air pollutants in accordance with the objectives set forth in Tables I-III.

(c) Standby plans as required under section 10.3(a) and 10.3(b) shall be in writing and identify the sources of air pollutants, the approximate amount of reduction of pollutants and a brief description of the manner in which the reduction will be achieved during an Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency.

(d) During a condition of Air Pollution Alert, Air Pollution Warning and Air Pollution Emergency, standby plans as required by this section shall be made available on the

premises to any person authorized to enforce the provisions of applicable rules and regulations.

(e) Standby plans as required by this section shall be submitted to the director upon request within thirty (30) days of the receipt of such request; such standby plans shall by subject to review and approval by the director. If, in the opinion of the director, a standby plan does not effectively carry out the objectives as set forth in Tables I-III, the director may disapprove it, state his reason for disapproval and order the preparation of an amended standby plan within the time period specified in the order.

TABLE I - ABATEMENT STRATEGIES EMISSION REDUCTION PLANS
ALERT LEVEL
PART A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.
2. The use of incinerators for the disposal of any form of solid waste shall be limited to the hours between 12 noon and 4 P.M.
3. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12 noon and 4 P.M.
4. Persons operating motor vehicles should eliminate all unnecessary operations.

PART B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Alert Level.

Source of Air Pollution	Control Action
1. Coal or oil-fired electric power generating facilities.	a. Substantial reduction by utilization of fuels having low ash and sulfur content. b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing c. Substantial reduction by diverting electric power generation to facilities outside of Alert Area.
2. Coal and oil-fired process steam generating facilities.	a. Substantial reduction by utilization of fuels having low ash and sulfur content b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Substantial reduction of steam load demands consistent with continuing plant operations.
3. Manufacturing industries of the following classifications: Primary Metals Industry. Petroleum Refining Operations. Chemical Industries. Mineral Processing Industries. Paper and Allied Products. Grain Industry.	a. Substantial reduction of air pollution from manufacturing operations by curtailing, postponing or deferring production and all operations. b. Maximum reduction by deferring trade waste disposal operations which emit solid particles, gas vapors, or malodorous substances. c. Maximum reduction of heat load demands for processing. d. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing.

TABLE II - EMISSION REDUCTION PLANS
WARNING LEVEL
PART A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.
2. The use of incinerators for the disposal of any form of solid waste or liquid waste shall be prohibited.
3. Persons operating fuel-burning equipment which requires boilder lancing or soot blowing shall perform such operations only between the hours of 12 noon and 4 P.M.
4. Persons operating motor vehicles must reduce operations by the use of car pools and increased use of public transportation and elimination of unnecessary operation.

PART B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control action for this Warning Level.

Source of Air Pollution	Control Action
1. Coal or oil-fired electric power generating facilities	a. Maximum reduction by utilization of fuels having lowest ash and sulfur content. b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Maximum reduction by diverting electric power generation to facilities outside of Warning Area.
2. Coal and oil-fired process steam generating facilities.	a. Maximum reduction by utilization of fuels having thelowest available ash and sulfur content. b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Making ready for use a plan of action to be taken if an emergency develops.
3. Manufacturing industries which require considerable lead time for shut-down including the following classifications: Petroleum Refining. Chemical Industries. Primary Metals Industries. Glass Industries. Paper and Allied Products	a. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardships by postponing production and allied operation. b. Maximum reduction by deferring trade waste disposal operations which emit solid particles, gases, vapors or malodorous substances.

(Continued on next page)

c. Maximum reduction of heat load demands for processing.
d. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing.

4. Manufacturing industries require relatively short lead times for shut-down including the following classifications:

   Primary Metal Industries.
   Chemical Industries.
   Mineral Processing Industries.
   Grain Industry.

a. Elimination of air pollutants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.
b. Elimination of air pollutants from trade waste disposal processes which emit solid particles, gases, vapors or malodorous substances.
c. Maximum reduction of heat load demands for processing.
d. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing.

TABLE III - EMISSION REDUCTION PLANS
EMERGENCY LEVEL
PART A. GENERAL

1. There shall be no open burning by any persons of tree waste, vegetation, refuse or debris in any form.
2. The use of incinerators for the disposal of any form of solid or liquid waste shall be prohibited.
3. All places of employment described below shall immediately cease operations:

   a. Mining and quarrying of nonmetallic minerals.
   b. All construction work except that which must proceed to avoid emergent physical harm.
   c. All manufacturing establishments except those rquired to have in force an air pollution emergency plan.
   d. All wholesale trade establishments; i.e., places of business primarily engaged in selling merchandise to retailers, or industrial, commercial, institutional or professional users, or to other wholesalers, or acting as agents in buying merchandise for or selling merchandise to such persons or companies, except those engaged in the distribution of drugs, surgical supplies and food.
   e. All offices of local, county and state government including authorities, joint meetings and other public bodies excepting such agencies which are determined by the chief administrative officer or local, county or state government, authorities, joint meetings and other public bodies to be vital for public safety and welfare and the enforcement of the provisions of this order.
   f. All retail trade establishments except pharmacies, surgical supply distributors and stores primarily engaged in the sale of food.
   g. Banks, credit agencies other than banks, securities and commodities brokers, dealers, exchanges and services; offices of insurance carriers, agents and brokers, real estate offices.
   h. Wholesale and retail laundries, laundry services and cleaning and dyeing establishments; photographic studios; beauty shops, barber shops, shoe repair shops.
   i. Advertising offices; consumer credit reporting, adjustment and collection agencies; duplicating, addressing, blueprinting; photocopying, mailing, mailing list and stenographic services; equipment rental services, commercial testing laboratories.
   j. Automobile repair, automobile services, garages.
   k. Establishments rendering amusement and recreational services including motion picture theaters.
   l. Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools and public and private libraries.

4. All commercial and manufacturing establishments not included in this order will institute such actions as will result in maximum reduction of air pollutants from their operation by ceasing, curtailing or postponing operations which emit air pollutants to the extent possible without causing injury to persons or damage to equipment. The use of motor vehicles is prohibited except in emergencies with the approval of local or State police.

PART B. SOURCE CURTAILMENT

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this Emergency Level.

Source of Air Pollution	Control Action
1. Coal or oil-fired electric power generating facilities.	a. Maximum reduction by utilization of fuels having lowest ash and sulfur content. b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing. c. Maximum reduction by diverting electric power generation to facilities outside of Emergency Area.
2. Coal and oil-fired process steam generating facilities.	a. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage. b. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing and soot blowing. c. Taking the action called for in the emergency plan.
3. Manufacturing industries of the following classifications: Primary Metal Industries. Petroleum Refining. Chemical Industries. Mineral Processing Industries. Paper and Allied Products.	a. Elimination of air pollutants from manufacturing operations by ceasing, curtailing, postponing or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment. b. Elimination of air pollutants from trade waste disposal processes which emit solid particles, gases, vapors or malodorous substances. c. Maximum reduction of heat load demands for processing. d. Maximum utilization of mid-day (12 noon to 4 P.M.) atmospheric turbulence for boiler lancing or soot blowing.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

DEPARTMENT OF HEALTH

REGULATIONS ON CONTROL OF NITROGEN OXIDES EMISSIONS
FROM GAS-FIRED AND OIL-FIRED FUEL BURNING EQUIPMENT

11. Nitrogen Oxides Control from Gas-fired and Oil-Fired Fuel Burning Equipment

11.1 No person shall cause or permit the emission of nitrogen oxides, calculated as nitrogen dioxide, from gas-fired fuel burning equipment in excess of 0.2 pounds per million Btu (0.36 gm/10^6 gm-cal) of heat input.

11.2 No person shall cause or permit the emission of nitrogen oxides, calculated as nitrogen dioxide, from oil-fired fuel burning equipment in excess of 0.30 pounds per million Btu (0.54 gm/10^6 gm-cal) of heat input.

11.3 These regulations are applicable to gas-fired and oil-fired fuel burning equipment of more than 100 million Btu per hour heat input.

11.4 The provisions of Sections 11.1, 11.2 and 11.3 will become effective one year from the effective date of these regulations.

is conducted whenever the tank is emptied for non-operational reasons or once per year, or

(g) the source utilized a vapor recovery system consisting of a device capable of collecting the vapor from volatile organic liquids and gases so as to prevent their emissions to the outdoor atmosphere. All tank gauging and sampling devices shall be gas tight except when gauging or sampling is taking place.

11.2.2 Records

11.2.2.1 Records are to be maintained by the owner or operator of a source defined in Subsection 11.2.1.1 and shall include:

(a) Reports of the results of inspections conducted under Subsections 11.2.1.1(e) and 11.2.1.1(f).

(b) Records of the yearly throughput quantities and types of volatile petroleum liquids.

(c) Records for both scheduled and unscheduled maintenance.

11.2.2.2 Records cited in Subsection 11.2.2.1 shall be maintained for a period of three (3) years and shall be accessible for review by the Director or personnel designated by the Director.

11.3 Bulk Gasoline Terminals

11.3.1 The section will apply to bulk gasoline terminals and the appurtenant equipment necessary to load and unload the tank trucks, railroad tank cars or trailer compartments.

11.3.2 Prohibitions

11.3.2.1 No person shall load or unload gasoline into any tank trucks, railroad tank cars, or trailers from any bulk gasoline terminal unless the above-mentioned vessels are equipped with a vapor balance system, and

(a) the bulk gasoline terminal is equipped with a vapor control system properly

installed, maintained and in good working order, in operation and that prevents emissions to the atmosphere from exceeding 0.30 grams per gallon (80.0 grams/1000 liters) of gasoline loaded. The vapor collection and processing equipment must be designed and operated to prevent gauge pressure in the tank truck from exceeding 18 inches of water and prevent vacuum from exceeding 6 inches of water, and

(b) a connecting pipe or hose from the loading rack to the delivery vessel is equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic materials to the best extent possible, and

(c) a vapor space connection on the tank truck, railroad tank car, or trailer equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic materials to the best extent possible.

11.3.2.2 Sources affected under Section 11.3 may not:

(a) allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation, nor

(b) allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.

11.3.2.3 All pumps and compressors handling gasoline shall have mechanical seals or other equipment of equal efficiency for purposes of air pollution control as approved by the Director.

11.3.2.4 The emergency venting of vessels covered by Subsection 11.3.2.1 shall not be considered a violation.

11.3.2.5 Seasonal Operation of Auxiliary Incineration Equipment - Where incineration equipment employing auxiliary fuel has been installed to effect compliance with the emission limitation of Subsection 11.3.2.1(a), the Director

have been volatilized to the gaseous phase from the liquid phase.

11.2 Storage of Petroleum Liquids - Fixed Roof Tanks

11.2.1 Prohibitions

11.2.1.1 No person shall place, store or hold in any stationary vessel, reservoir, or other container of more than 40,000 gallons capacity any petroleum liquids unless such tank reservoir or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the outdoor atmosphere unless:

(a) the source utilizes an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall, or

(b) the source utilizes an equally effective alternative control, approved by the Director, and

(c) the source is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials, and

(d) where applicable, all openings, except stub drains are equipped with covers, lids, or seals such that:

(1) the cover, lid, or seal is in the closed position at all times except when in actual use, and

(2) automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports, and

(3) rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting, and

(e) routine inspections are conducted through roof hatches on a regular basis, and

(f) a complete inspection of cover and seal

tank truck or stationary tank through a submerged fill pipe whose discharge opening is entirely submerged when the pipe normally used to withdraw liquid from the tank can no longer withdraw any liquid.

11.1.8 "Submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe the discharge of which is entirely submerged when the liquid level is 18 inches or twice the diameter of the fill pipe, whichever is greater, above the bottom of the tank.

11.1.9 "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading vessel and a receiving vessel such that vapors displaced from the receiving vessel are transferred to the vessel being unloaded.

11.1.10 "Owner" means any person who has legal or equitable title to the gasoline storage vessel at a facility.

11.1.11 "Operator" means any person who leases, operates, controls or supervises a facility at which gasoline is dispensed.

11.1.12 "Gasoline dispensing facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage vessels.

11.1.13 "Daily throughput" means the average amount of gasoline that a bulk gasoline terminal or plant dispenses in a day from that facility and is defined as the total yearly throughput of the facility divided by 300 or by the actual number of operating days of the facility in the previous calendar year.

11.1.14 "Vapor tight" means the condition where a combustible gas detector does not detect a leak of volatile organic materials when the probe of this meter is held parallel to the flow of volatile organic materials from the leak source.

11.1.15 "Leak" means a meter reading from a combustible gas detector greater or equal to 100 percent lower explosive limit as propane.

11.1.16 "Vapor" means those components of gasoline that

RHODE ISLAND DEPARTMENT OF ENVIRONMENTL MANAGEMENT

DIVISION OF AIR RESOURCES

AIR POLLUTION CONTROL REGULATION NO. 11

PETROLEUM LIQUIDS MARKETING AND STORAGE

11. Petroleum Liquids Marketing and Storage

11.1 Definitions

As used in these regulations, the following terms shall, where the context permits, be construed as follows:

11.1.1 "Petroleum liquids" means crude oil, condensate and any finished or intermediate products manufactured or extracted in a petroleum refinery whose true vapor pressure is greater than 1.52 psia (10.5 kilo pascals) at 69 degrees F.

11.1.2 "Bulk gasoline terminal" means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, railroad tank car, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has a daily throughput of more than 20,000 gallons of gasoline.

11.1.3 "Bulk gasoline plant" means a gasoline storage and distribution facility with an average daily throughput of 20,000 gallons or less but greater than 4,000 gallons which receives gasoline from bulk terminals by trailer transport or railroad tank car, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.

11.1.4 "Gasoline" means any petroleum distillate having a Reid vapor pressure of 4.0 psia (27.6 kPa) or greater.

11.1.5 "Splash filling" means the filling of a tank truck or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.

11.1.6 "Bottom filling" means the filling of a tank truck or stationary storage tank through an opening that is flush with the tank bottom.

11.1.7 "Submerged filling" means the filling of a

tank truck, railroad tank car or trailer may permit the loading or unloading of account trucks, tank trucks, railroad tank cars, or trailers at a bulk gasoline plant unless each account truck, tank truck, railroad tank car or trailer is equipped with a vapor balance system as described in Subsection 11.4.2.2 and approved by the Director, and

(a) equipment is available at the bulk gasoline plant to provide for the submerged filling of each tank truck, railroad tank car or trailer, or

(b) each tank truck, railroad tank car or trailer is equipped for bottom filling.

11.4.2.2 Vapor balance systems required under Subsection 11.4.2.1 shall prevent the release of volatile organic material to the atmosphere to the best extent possible and shall consist of the following major components:

(a) a vapor space connection on the stationary storage tank equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic material to the best extent possible, and

(b) a connecting pipe or hose equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic material to the best extent possible, and

(c) a vapor space connection on the tank truck, railroad tank car or trailer equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of volatile organic material to the best extent possible.

11.4.2.3 No owner or operator of a bulk gasoline plant may permit gasoline to be spilled, discarded in sewers, stored in open containers or handled in any other manner that would result in evaporation.

11.4.3 Records

11.4.3.1 Records shall be maintained by the owner or

and (c) to the Director for approval in accordance with Section 23-25-5(j) of the General Laws of 1956, as amended, and Air Pollution Control Regulation 9.

(b) Not later than 1 March 1980 - award all necessary contracts for the implementation of the approved plans and specifications.

(c) Not later than 1 October 1980 - submit a progress report to the Director on the expected delivery date of all capital equipment ordered to comply with Subsection 11.3.2.1(a) through (c).

(d) Not later than 1 March 1981 - initiate any construction, modification and/or installation required by the approved plans and specifications.

(e) Not later than 1 July 1981 - complete any actions described in Subsection 11.3.4.1 (d).

11.3.4.2 The achievement of items (b), (d) and (e) of Subsection 11.3.4.1 will be reported in writing within five (5) days to the Director.

11.3.4.3 All records and reports will include supporting documentation as appropriate.

11.3.5 Compliance Test Methods

11.3.5.1 Conpliance with the emission limitations set forth in Section 11.3 shall be determined by using the procedures and test methods which are detailed in Appendix A of EPA publication entitled Control of Hydorcarbons from Tank Truck Gasoline Loading Terminals, Guidelne Series Publication No. EPA-450/2-77-026 (OAQPS No. 12-082).

11.4 Gasoline Plants

11.4.1 This regulation will apply to the unloading, loading and storage facilities of all bulk gasoline plants and all tank trucks delivering or receiving gasoline at bulk gasoline plants.

11.4.2 Prohibitions

11.4.2.1 No owner or operator of a bulk gasoline plant,

may authorize discontinuation of the operation of such equipment for the purpose of fuel conservation during the months of November, December, January, February and March provided that the operation of such equipment is not required for purposes of occupational health or safety or for the control of toxic substances or other regulated pollutants or for the prevention of odor nuisances. Authorization to discontinue operation of incineration equipment may be made only after receipt of a written request from the owner or operator of an applicable bulk gasoline terminal. Authorization shall be made in writing and may be similarly revoked by the Director if such revocation is found necessary for the attainment of maintenance of any air pollution standard.

11.3.3 Records

11.3.3.1 Records shall be maintained by the owner or operator of a bulk gasoline terminal and shall include:

(a) Records of the yearly throughput quantities of gasoline.

(b) Records for both scheduled and unscheduled maintenance of the vapor control system that is described in Subsection 11.3.2.1 (a).

11.3.3.2 Records cited in Subsection 11.3.3.1 should be maintained for a period of three years and should be accessible for review by the Director or personnel designated by the Director.

11.3.4 Compliance

11.3.4.1 Compliance Schedules - all persons owning or controlling sources as described in Subsection 11.3.1 shall achieve compliance with Subsection 11.3.2.1 (a) through (c) not later than 1 July 1981 in accordance with the following schedule:

(a) Not later than 1 January 1980 - submit final plans, specifications and maintenance schedules of equipment to be used to prevent gasoline vapor loss to the atmosphere and to comply with Subsections 11.3.2.1 (a), (b),

under the control of bulk gasoline plants that are exempt from Section 11.4 of this regulation.

11.5.2 Prohibitions

11.5.2.1 Except as provided in Subsection 11.5.1, no person may transfer or cause or allow the transfer of gasoline from any delivery vessel into any stationary storage vessel unless the stationary storage vessel is equipped with a submerged fill pipe and the vapors displaced from the storage vessel during filling are processed by a vapor control system in accordance with Subsection 11.5.2.2.

11.5.2.2 The vapor control system required by Subsection 11.5.2.1 shall include one or more of the following:

(a) a vapor tight line from the storage vessel to the delivery vessel and a system that will ensure that vapors will be transferred from the storage vessel to the delivery vessel to include the following systems:

(1) Installation of a vent pipe restrictive device to include a vent pipe cape having an orifice of 1/2 inch to 3/4 inch ID, and

(2) The vapor tight line from the storage vessel to the delivery vessel must be equipped with interlocking connections which will prevent fuel delivery unless the vapor line is connected.

(b) a refrigeration-condensation system or equivalent designed to recover or process vapors that prevents emissions of volatile organic compounds to the atmosphere from exceeding 0.30 grams per gallon (80.0 grams/1000 liters) of gasoline loaded, or

(c) a system demonstrated to have control efficiency equivalent to or greater than provided under Subsection 11.5.2.2(a) and (b) and approved by the Director.

11.5.2.3 The vapor-tight delivery vessel shall be subject to the following conditions:

DEPARTMENT OF HEALTH

REGULATIONS ON THE PREVENTION
AND CONTROL OF AIR POLLUTION FROM INCINERATORS

12. Prevention and Control of Air Pollution from Incinerators

12.1 Definitions: As used in these regulations, the following terms shall, where the context permits, be construed as follows:

12.1.1 "Type 0 Refuse" means trash, a mixture of highly combustible refuse such as paper, cardboard, cartons, wood boxes, and combustible floor sweepings, containing approximately 10% moisture and 5% incombustible solids, and having a heating value of approximately 8500 Btu per pound as fired, and deriving from commercial and industrial activities. The mixtures contain up to 10% by weight of plastic bags, coated paper, laminated paper treated corrugated cardboard, oily rags and plastic or rubber scraps.

12.1.2 "Type 1 Refuse" means rubbish, a mixture of combustible refuse such as paper, cardboard, cartons, wood scraps, foliage and combustible floor sweepings, containing approximately 25% moisture and 10% combustible solids and having a heating value of approximately 6500 Btu per pound as fired, and deriving from domestic, commercial and industrial activities. The mixture contains up to 20% by weight of restaurant or cafeteria refuse but contains little or no treated paper, plastic or rubber refuse.

12.1.3 "Type 2 Refuse" means refuse, consisting of an approximately even mixture of rubbish and garbage by weight, containing up to 50% moisture and approximately 7% incombustible solids, and having a heating value of approximately 4300 Btu per pound as fired, and commonly deriving from apartment and residential occupancy.

12.1.4 "Type 3 Refuse" means garbage, consisting of animal and vegetable refuse containing up to 70% moisture and up to 5% incombustible solids and having a heating value of approximately 2500 Btu per pound as fired and deriving from restaurants, cafeterias, hotels, hospitals, markets and like installations.

12.1.5 "Type 4 Refuse" means human and animal remains, consisting of carcasses, organs and solid organic refuse from hospitals, laboratories, abbatoirs, animal pounds and similar sources, consisting of up to 85% moisture and approximately 5% incombustible solids and having a heating value of approximately 1000 Btu per pound as fired

(a) the scheduled date for maintenance or the date a malfunction was detected, and

(b) the date the need for maintenance or malfunction of major system components was reported to the owner, and

(c) the date the maintenance was performed or the malfunction corrected by either the operator or the owner.

11.5.3.2 Records cited in Subsection 11.5.3.1 shall be maintained for a period of three (3) years and should be accessible for review by the Director or personnel designated by the Director.

11.5.4 Compliance

11.5.4.1 Compliance Schedule - all persons owning or controlling gasoline delivery vessels or gasoline storage vessels as described in Subsections 11.5.2.1, 11.5.2.2, and 11.5.2.3 shall achieve compliance with Subsection 11.5.2.4 not later than 1 July 1981 and shall achieve compliance with this subsection in accordance with the following schedule:

(a) No later than three months after the effective date of this regulation all persons owning gasoline delivery or storage vessels shall submit to the Director the following information:

(1) the number of storage or delivery vessels that are controlled by said person,

(2) the number of storage or delivery vessels that would currently comply with the regulations,

(3) the approximate yearly throughput of gasoline from each gasoline dispensing facility.

(b Not later than 1 October 1979 submit final plans, specifications and maintenance schedules of equipment used to prevent gasoline vapor loss to the atmosphere and used to comply with Subsection 11.5.2.4 to the Director for approval in accordance with Section 23-25-5 (j) of the General Laws of

1956, as amended.

(c) Not later than 1 January 1980 award all necessary contracts for implementation of approved plans and specifications.

(d) Not later than 1 March 1980 initiate any construction, modification and/or installation required by the approved plans and specifications.

(e) Submit to the Director on 1 October 1980 a progress report of the activities required by Subsection 11.5.4.1.d.

11.5.4.2 The achievement of item (c) of Subsection 11.5.4.1 shall be reported in written form within five (5) days to the Director.

11.5.4.3 All records and reports will include supporting documentation as appropriate.

11.5.5 Compliance Test Methods

11.5.5.1 Compliance test methods to be used in Section 11.5 of this regulation will follow Appendix B - Gasoline Vapor Leak Detection Procedures by Combustible Gas Detector which is detailed in the EPA document entitled Control of Volatile Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems, EPA-450/2-78-051, OAQPS No. 1.2-119.

11.5.5.2 The compliance test method as described in Subsection 11.5.5.1 will be used to determine if a vapor-tight condition exists in:

(a) the line from the storage vessel to the delivery vessel during gasoline transfer, as described in Section 11.5.2.2 (a), and

(b) the vapor-laden delivery vessel as described in Section 11.5.2.3 (a).

(a) the delivery vessel must be designed and maintained to be vapor tight at all times, and

(b) the vapor-laden delivery vessel may be refilled only at:

(1) bulk gasoline terminals complying with Section 11.3, or

(2) bulk gasoline plants complying with Section 11.4

11.5.2.4 Each owner of a gasolne storage vessel and a gasoline delivery vessel covered by Subsection 11.5.2.1 shall:

(a) purchase and install all necessary control systems and make all necessary process modifications to comply with Subsections 11.5.2.2 and 11.5.2.3, and

(b) provide instructions to the operator of the gasoline dispensing facility utilizing a vapor control system as required in Subsection 11.5.2.2 (b) describing necessary maintenance operations and procedures for prompt notification of the owner in case of any malfunctions of the control system, and

(c) repair, replace or modify any worn out or malfunctioning component or element or design.

11.5.2.5 Each operator of a gasoline dispensing facility covered by Subsection 11.5.2.2 shall:

(a) maintain and operate the control system in accordance with the specifications and the operating and maintenance procedures specified by the owner, and

(b) promptly notify the owner of the control system of any scheduled maintenance or malfunction requiring replacement or repair of major components of the system.

11.5.3 Records

11.5.3.1 The operator of a gasoline dispensing facility covered by Subsection 11.5.2.2 (b) shall maintain records and shall include:

operator of a bulk gasoline plant and shall include:

(a) records of the yearly throughput quantities of gasoline,

(b) records of both scheduled and unscheduled maintenance of vapor balance equipment as described in Subsection 11.4.2.2.

11.4.3.2 Records cited in Subsection 11.4.3.1 should be maintained for a period of three (3) years and should be accessible for review by the Director of personnel designated by the Director.

11.4.4 Compliance

11.4.4.1 Compliance Schedules - all persons owning or controlling sources as described in Subsection 11.4.1 shall register with the Director no later than three months after the effective date of this regulation. Compliance schedules will be negotiated on a case-by-case basis.

11.4.5 Compliance Test Methods - To be determined.

11.5 Gasoline Service Station Stage I Vapor Controls

11.5.1 This section will apply to all gasoline dispensing facilities with the following exceptions:

(a) stationary gasoline storage vessels of less than 550 gallons capacity used exclusively for the fueling of implements of husbandry, provided the containers are equipped with submerged fill pipes, or

(b) stationary storage vessels located at a gasoline dispensing facility with a capacity of less than 2000 gallons which is in place before 1 July 1979, or

(c) any stationary storage vessels located at a gasoline dispensing facility with a capacity of 250 gallons or less which is installed after the effective date of this regulation.

(d) Any gasoline dispensing facility that is solely serviced by account trucks owned or

12.1.6 "Type 5 Refuse" means by-product refuse, gaseous, liquid or semi-liquid, such as tar, paints, solvents, sludge, fumes, etc., from industrial operations.

12.1.7 "Type 6 Refuse" means solid by-product refuse, such as rubber, plastics, wood waste, etc., from industrial operations.

12.1.8 "Single Flue-Fed Incinerator" means an incinerator provided with a single flue which serves as both the charging chute and the flue to transport products of combustion to the atmosphere.

12.1.9 "Multiple Chamber Incinerator" means an incinerator with two or more refractory-lined combustion chambers in series physically separated by refractory walls, interconnected by gas passages, and employing adequate design parameters necessary for maximum combustion of the refuse materials.

12.2 Emission Standards

12.2.1 New Incinerators

(a) No person shall construct, install, use or cause to be used any new incinerator of less than 2000 pounds per hour refuse input capacity and designed only to burn Types 0, 1, 2 and/or 3 refuse, which will emit more than 0.16 gr./s.c.f. (0.36 g./NM^3) of particulate matter corrected to 12 percent CO_2, maximum two-hour average.

(b) No person shall construct, install, use or cause to be used any new incinerator of 2000 pounds per hour or more refuse input capacity, or any new incinerator of any capacity which burns Types 4, 5 and/or 6 refuse, which emit more than 0.08 gr./s.c.f. (0.18 g./NM^3) of particulate matter corrected to 12 percent CO_2, maximum two-hour average.

12.2.2 Existing Incinerators

(a) No person shall modify or relocate and use or cause to be used after 31 January 1974 any existing incinerator of less than 2,000 pounds per hour refuse input capacity and designed only to burn Types 0, 1, 2 and/or 3 refuse, which will emit more than 0.16 gr./NM^3) of particulate matter corrected to 12 percent CO_2, maximum two-hour average.

(b) No person shall modify or relocate and use or cause to be used after 31 January 1974 any existing incinerator of less than 2,000 pounds per hour refuse input capacity and designed to burn Types 4, 5,

and/or 6 refuse, which will emit more than .08 gr./s.c.f. (0.18 g./Nm^3) of particulate matter corrected to 12 percent CO_2, maximum two-hour average.

(c) No person shall modify or relocate and use or cause to be used after 31 May 1975 any existing incinerator of 2,000 pounds per hour or more refuse input capacity which will emit more than .08 gr./s.c.f. (0.18 g./Nm^3) of particulate matter corrected to 12 percent CO_2, maximum two-hour average.

12.2.3 Compliance Schedules

All sources subject to subsection 12.2.2 (c) shall comply with its requirements as expeditiously as practicable but in no case later than 31 May 1975. No later than 15 February 1973 the owners or operators of such sources shall submit to the director for his approval compliance schedules containing such increments of progress toward compliance as may be necessary to permit close and effective supervision of progress toward compliance including, where practicable, the following increments: submission to the director of plans and/or specifications necessary to bring about compliance with this subsection; award necessary contracts to implement such plans; initiation of any construction, process modification, installation of control equipment or other measures required by the plan; completion of any construction, process modifications, installation of control equipment or any other measures required by the plan; the date by which final compliance with this subsection will be achieved. If a source fails to submit a compliance schedule meeting the requirements of this subsection by 15 February 1973, the director will establish one for said source.

12.3 Construction Standards

12.3.1 No person shall construct, install, use or cause to be used any new incinerator unless such incinerator is of the multiple chamber type or of a type approved by the director as being equally effective for the purpose of air pollution control.

12.3.2 No person shall use or cause to be used after 31 January 1974 any existing incinerator unless such incinerator is of the multiple chamber type or of a type approved by the director as being equally effective for the purpose of air pollution control

12.3.3 No person shall construct, install, use or cause to be used any new single flue-fed incinerator.

12.4 Approval to Construct, Alter, or Modify

12.4.1 No person shall construct or install any new incinerator, or any new control apparatus, or modify any existing incinerator, or any existing control apparatus, without first having obtained an approval to construct, install or modify from the director in accordance with the provisions of Regulation 9 of the State of Rhode Island Air Pollution Control Rules and Regulations.

12.5 Exceptions

12.5.1 The provisions of these regulations shall not apply to incinerators installed or used in one-, two-, or three-family dwellings.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH
REGULATIONS ON PREVENTION AND CONTROL OF
AIR POLLUTION FROM FUEL BURNING EQUIPMENT

13. Prevention and Control of Air Pollution from Fuel Burning Equipment

13.1 No person shall cause or permit the emission, from fuel burning equipment having a heat input of more than 250 million Btu per hour, of particulate matter in excess of 0.10 pounds per million Btu per hour heat input.

13.2 No person shall cause or permit the emission, from fuel burning equipment having a heat input of more than one million Btu per hour and less than 250 million Btu per hour, of particulate matter in excess of 0.20 pounds per million Btu per hour heat input.

13.3 For purposes of these regulations, the heat input shall be the aggregate heat content of all fuels whose products of combustions pass through a stack or stacks. The heat input value used shall be the equipment manufacturer's or designer's guaranteed maximum input, whichever is greater. The total heat input of all fuel burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF HEALTH
REGULATIONS ON RECORD KEEPING AND REPORTING

14. Record Keeping and Reporting

14.1 The owner or operator of any stationary source of air contaminants shall, at the request of the Director of the Department of Health, maintain records of and submit to him data on operational processes. fuel usage, emissions, stack parameters, boiler capacities, types of equipment generating air contaminants and air contaminant control devices that may be necessary to determine if the source is in compliance with applicable rules and regulations of the department.

14.2 Information obtained from owners or operators of stationary sources pursuant to Section 14.1 will be correlated with applicable emission limitations and other control regulations and will be made available for public inspection.

14.3 The information recorded by the owner or operator of a stationary source shall be summarized and reported to the Director of the Department of Health on forms furnished by him. They shall be submitted within 45 days following the end of the reporting period. Reporting periods are 1 January - 30 June and 1 July - 31 December.

14.4 The provisions of these regulations shall not apply to any emission source installed or used in one-, two-, or three-family dwellings.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF AIR RESOURCES

AIR POLLUTION CONTROL REGULATION NO. 18

CONTROL OF SOLVENT METAL CLEANING EMISSIONS

18. Control of Solvent Metal Cleaning Emissions

18.1 Definitions

As used in these regulations, the following terms shall, where the context permits, be construed as follows:

18.1.1 "Cold cleaning" means the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

18.1.2 "Vapor degreasing" means the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.

18.1.3 "Conveyorized degreasing" means the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.

18.1.4 "Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning, vapor degreasing or conveyorized degreasing.

18.1.5 "Freeboard height" means the distance from the top of the vapor zone to the top of the vapor degreaser tank or for cold cleaners the distance from the top of the liquid level to the top of the cold cleaning tank.

18.1.6 "Freeboard ratio" means the freeboard height divided by the width of the degreaser.

18.2 General Requirements

18.2.1 No person shall conduct solvent metal cleaning unless the following procedures are used to control emissions of volatile organic compounds from such processes:

(a) Solvent is stored in covered containers

and waste solvent is transferred or disposed of in such a manner that less than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere, and

(b) Repair solvent leaks immediately or shut down the degreaser, and

(c) Equipment used in solvent metal cleaning displays a conspicuous summary of proper operating procedures consistent with minimizing emissions of volatile organic compounds, and

(d) Equipment covers are closed when the solvent metal cleaning unit is not in service, and

(e) A record of solvent consumption shall be maintained annually and made available to the Division of Air Resources upon request.

18.3 Equipment Specifications

The following control measures are required by a person when conducting solvent metal cleaning:

18.3.1 Cold Cleaning Degreasing

(a) Equip the cleaner with a cover and the cover shall be so designed that it can easily be operated with one hand, and

(b) Equip the cleaner with a facility for draining cleaned parts and the drainage facility shall be constructed so that parts are enclosed under cover while draining, and

(c) Install one of the following control devices:

(1) Freeboard that given a freeboard ratio greater than or equal to 0.75, or

(2) Water cover of at least four inches in depth where the solvent is insoluble in and heavier than water, or

(3) Other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the Director.

18.3.2 Vapor Degreasing

(a) Equip the vapor degreaser with a cover that can be easily operated without disturbing

the vapor zone, and

(b) Provide the following safety switches:

(1) A condenser flow switch and thermostat which shut off the heat if the condenser coolant is either not circulating or too warm, and

(2) A vapor level control thermostat which shuts off the heat when the vapor level rises too high, and

(c) Install one of the following control devices:

(1) Extend the freeboard so that the freeboard ratio is greater than or equal to 0.75, and install a powered or mechanically assisted cover if the top opening is greater than ten square feet, or

(2) A refrigerated chiller having the ability to remove a minimum of 100 BTU/hour/foot of perimeter coil, or

(3) Carbon adsorption system, with ventilation greater than or equal to 50 cfm/square foot of open top area and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle, or

(4) A control system, demonstrated to have control efficiency equivalent to or greater than any of the above, and approved by the Director.

18.3.3 Conveyorized Degreasing

(a) Install one of the following control devices:

(1) a refrigerated chiller having the ability to remove a minimum of 100 BTU/hour/foot of perimeter coil, or

(2) A carbon adsorption system, with ventilation greater than or equal to 50 cfm/square foot of open top area and exhausting less than 25 ppm of solvent by volume averaged over a complete adsorption cycle, or

(3) A system, demonstrated to have a control efficiency equivalent to or greater

than either of the above and approved by the Director, and

(b) Equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor, and

(c) Provide the following safety switches:

(1) A condenser flow switch and thermostat which shut off the heat if the condenser coolant is either not circulating or too warm, and

(2) a vapor level control thermostat which shuts off the heat when the vapor level rises too high, and

(d) Minimize openings during operation so that entrances and exits will silhouette workloads with a clearance between the largest parts and the edge of the degreaser opening of less than four inches per side, and

(e) Place down time covers over entrances and exits of conveyorized degreasers immediately after the conveyors and exhausts are shut down and do not remove them until just before start-up.

18.4 Operating Requirements

The following operating procedures are required by a person when conducting solvent metal cleaning:

18.4.1 Cold Cleaning Degreasing

(a) Clean parts shall be drained at least 15 seconds or until dripping ceases.

18.4.2 Vapor Degreasing

(a) Minimize solvent carry out by:

(1) racking parts to allow complete drainage, and

(2) moving parts in and out of the degreaser at less than two inches/second, and

(3) holding parts in the vapor zone at least 30 seconds or until condensation

ceases, and

(4) tipping out any pools of solvent on the cleaned parts before removal from the vapor zone, and

(5) allowing parts to dry within the degreaser for at least 15 seconds or until visually dry, and

(b) Degrease only nonporous or non-absorbent material, and

(c) Workloads shall not occupy more than half of the degreaser's open top area, and

(d) Spray only below the vapor level, and

(e) Do not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator, and

(f) Exhaust ventilation rate shall not exceed 125 percent of the minimum ventilation rate required for the protection of workers in the vicinity of the degreaser.

18.4.3 Conveyorized Degreasing

(a) Exhaust ventilation rate shall not exceed 125 percent of the minimum ventilation rate required for the protection of workers in the vicinity of the degreaser, and

(b) Minimize carry out emissions by:

(1) racking parts for best drainage, and

(2) maintaining the vertical conveyor speed at less than two inches/second, and

(c) Do not operate the cleaner so as to allow water to be visially detectable in solvent exiting the water separator.

18.5 Degreasing Compliance Schedule

18.5.1 Process and Emission Control Equipment Installations for Solvent Metal Cleaning Processes

(a) The owner or operator of a source conducting solvent metal cleaning operations proposing to install and operate volatile organic compound emission control equipment and/or

replacement process equipment to comply with Regulation 18 shall adhere to the increments of progress contained in the following schedule:

(1) Final plans for the emission control system and/or process equipment must be submitted as expeditiously as practicable but not later than 1 March 1980.

(2) Contracts for the emission control systems and/or process equipment must be awarded or orders must be issued for purchase of component parts to accomplish emission control as expeditiously as practicable but not later than 1 June 1980.

(3) Initiation of on-site construction or installation of the emission control system and/or process equipment must begin as expeditiously as practicable but not later than 1 August 1980.

(4) On-site construction or istallation of of the emission control and/or process equipment must be completed as expeditiously as practicable but not later than 1 February 1981.

(5) Final compliance shall be achieved as expeditiously as practicable but not later than 1 March 1981.

(6) Any owner or operator of a source subject to the above compliance schedule shall certify in writing to the Chief of the Division of Air Resources within five (5) days after the deadline for each increment of progress whether the required increment or progress has been met.

18.5.2 Equipment Modification for Solvent Metal Cleaning Processes

(a) The owner or operator of a source conducting solvent metal cleaning operations proposing to comply with Regulation 18 by modifications of existing process equipment shall adhere to the increments of progress contained in the following schedule:

(1) Final plans for equipment modification must be submitted as expeditiously as practicable but not later than 1 January 1980.

(2) Contracts for equipment modification must be awarded or orders must be issued for the purchase of component parts to accomplish equipment modifications as expeditiously as practicable but not later than 1 March 1980.

(3) Initiation of on-site construction or installation of equipment modifications must begin as expeditiously as practicable but not later than 1 May 1980.

(4) On-site construction or installation of equipment modifications must be completed as expeditiously as practicable but not later than 1 August 1980.

(5) Final compliance shall be achieved as expeditiously as practicable but not later than 1 September 1980.

(6) Any owner or operator of a source subject to the above compliance schedule shall certify in writing to the Chief of the Division of Air Resources within five (5) days after the deadline for each increment of progress whether the required increment of progress has been met.

18.6 Exemptions

18.6.1 The provisions of this regulation shall apply with the following exceptions:

(a) Open top vapor degreasers with an open area smaller than ten square feet shall be exempt from Subsection 18.3.2 (c) of this regulation, and

(b) Conveyorized degreasers with an air/vapor interface smaller than 21.5 square feet shall be exempt from Subsection 18.3.3(a) of this regulation, and

(c) No volatile organic compound is exempt from this regulation.

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

DIVISION OF AIR RESOURCES

AIR POLLUTION CONTROL REGULATION NO. 19

CONTROL OF VOLATILE ORGANIC COMPOUNDS FROM SURFACE COATING OPERATIONS

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19. Control of Volatile Organic Compounds from Surface Coating Operations

19.1 Definitions

As used in these regulations, the following terms shall, where the context permits, be construed as follows:

19.1.1 "Volatile organic compound" means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate that has a vapor pressure greater than 0.1 mm of mercury at 20 degrees C.

19.1.2 "Surface coating" means a process whereby a layer of one or more substances is deposited on another material (substrate) in a uniform manner across the surface of the substrate. The layer of coating may be used for appearances, to decorate, bond, protect, strengthen, functionalize, import stability, water or acid repellence or mildew resistance. For purposes of this regulation only, types of coating processes are defined as follows:

(a) Paper coating - the application of a coating or coatings on paper or pressure-sensitive tapes, plastic film, and metal foil to impart any or all qualities above.

(b) Fabric coating - the application of a coating or coatings on a textile substrate to impart any or all qualities above.

(c) Vinyl coating - the application of a coating or coatings on a vinyl coated fabric or vinyl substrate to impart any or all qualities above.

19.1.3 "Facility" means an operation of a process or or processes located in a building or buildings on one or more adjacent properties owned or operated by a single person.

19.1.4 "Coating applicator" means a device, mechanism, or apparatus used to apply a surface coating. Common types of application techniques include knife, roll, spray, or dip.

19.1.5 "Coating line" means an operation or manufacturing process comprised of one or more coating applicators, one or more flash-off areas, and as an option, an oven wherein a surface coating is dried and/or cured.

19.1.6 "Oven" means a chamber within which heat is used to bake, cure or polymerize and/or dry a surface coating.

19.2 Applicability

19.2.1 The provisions of this regulation apply to all surface coating facilities which emit more than 100 tons per year of volatile organic compounds. Sources which emit 100 tons per year or less are exempt from this regulation.

19.2.2 Determination of emissions will be based upon calculations as per the guideline, "Hydrocarbon Emission Factors," (Form AP-18).

19.3 Emissions Limitations

19.3.1 As outlined in the following schedule, surface coating operations shall achieve the emissions limitations set forth:

Type of Coating Facility	Emission Limitation (#VOC/gal sfc ctg - water) by 1 July 1982	Emission Limitation (#VOC/gal sfc ctg - water) by 1 July 1985
Paper	4.0	2.9
Fabric	4.0	2.9
Vinyl	4.0	3.8

19.3.2 Compliance with the emissions limitations of Subsection 19.3.1 shall be achieved through:

(a) installation of an approved control system such that the total emission reduction from the controlled coating line is 85 percent or greater over uncontrolled volatile organic compound emissions, or

(b) coating reformulation such that the emissions limitation of Subsection 19.3.1 is met, or

(c) an alternative equivalent method of control as approved by the Director.

19.4 Alternative Standards Allowing Internal Offsets for Surface Coating Facilities

19.4.1 The Director may in an applicable compliance schedule approve alternative standards to apply to a surface coating facility upon a showing that the requirements of Subsections 19.4.2, 19.4.3 and 19.4.4 are met.

19.4.2 Alternative standards may be approved if the following requirements are met:

(a) The facility owner or operator proposes an emission limitation which defines the maximum allowable emission rate in pounds per hour for each surface coating line which is part of the surface coating facility and which is specified in Subsection 19.4.2(b), and

(b) The surface coating line is an emission source the construction or modification of which has commenced prior to the effective date of this regulation and is a source to which no new source performance standard is applicable, and

(c) The combined emission rate from all surface coating lines which are part of the surface coating facility and which are specified in Subsection 19.4.2 (b) is less than or equal to an emission rate determined by the following equation:

$$E = A1 \times B1 + A2 \times B2 + \ldots + An \times Bn$$

where E = the allowable emissions from the surface coating facility in pounds per hour

A1,2,...,n = the allowable emission rate for each surface coating facility as determined in Subsection 19.3.1 in pounds per gallon of coating excluding water

B1,2,...,n = the amount of coating material in gallons per hours excluding water

(d) All surface coating lnes at the surface coating facility which are not included in the internal offset must comply with other applicable portions of this regulation.

19.4.3 The allowable emission rate in pounds per hour for each surface coating line may be allowed to fluctuate above or below the maximum emission rate specified in Subsection 19.4.2 if the combined emission rate from all surface coating lines which are part of the surface coating facility and whih are specified in Subsection 19.4.2 (b) conforms to the requirements of Subsection 19.4.2 (c) and if the Director determines that this approach is enforceable as the method set forth in Subsection 19.4.2.

19.4.4 Alternative standards as set forth in Subsection 19.4.2 may be determined on a daily basis if the owner or operator can demonstrate that this approach achieves an equivalent or better emission reduction and that this approach is as enforceable as alternative standards developed on an hourly basis.

19.5 Seasonal Operation of Auxiliary Incineration Equipment

Where incineration equipment employing auxiliary fuel has been installed to effect compliance with the emission limitation of Subsections 19.3 or 19.4, the Director may authorize discontinuation of the operation of such equipment for the purpose of fuel conservation during the months of November, December, January, February and March provided that the operation of such equipment is not required for purposes of occupational health or safety or for the control of toxic substances or other regulated pollutants or for the prevention of odor nuisances. Authorization to discontinue operation of incineration equipment may be made only after receipt of a written request for the owner or operator of an applicable surface coating facility. Authorization shall be made in writing and may be similarly revoked by the Director if such revocation is found necessary for the attainment or maintenance of any air pollution standard.

19.6 Registration

Any person who uses 5 gallons/day or more of a coating must register annually with the Division of Air Resources. No later than 45 days following the end of a calendar year, the following information must be submitted on forms supplied by the Director:

(a) The name and address of the company and the name and telephone number of a responsible corporate official submitting the registration, and

(b) A description of all operations in which volatile organic compound emitting equipment serves with the operation, and

(c) Quantities of coatings, solvents, dissolvers, viscosity reducers, diluents, thinners, reagents, cleaning agents, enamels lacquers, or paints consumed during the calendar year of record, and

(d) The amount of volatile organic compound per gallon of coating solution (pounds per gallon) for each coating, enamel, lacquer, or paint consumed at the facility during the calendar year of record.

19.7 Compliance Demonstration/Testing

19.7.1 Compliance with emissions limitations of Subsections 19.3.1 and 19.3.3 shall be demonstrated in accordance with the following test methods: ASTM D 1475-69-73, Federal Standard 141 a. Method 4082.1, or any other method which has been accepted by the Director.

19.7.2 (Reserved for stack exhaust sampling techniques.)

19.8 Compliance Schedules

19.8.1 Persons owning, leasing or controlling the operation of any surface coating source as defined in Subsection 19.1.2 and subject to the emissions limitations of Subsection 19.3.1 shall achieve compliance with said sections according to the dates mandated in Subsection 19.3.1. Proposed plans and compliance schedules for said facilities will be submitted to the Director no later than 1 March 1980.

19.8.2 All compliance schedules for process equipment replacement or modification or installation of control equipment shall provide for periodic increments of progress including but not limited to:

(a) Submittal of engineering plans,

(b) Ordering of equipment plan approval,

(c) Installation date after confirmation of order by the manufacturer, and

(d) Date by which the applicable regulatory emissions limitation will be achieved after equipment is in satisfactory operation.

19.8.3 All compliance schedules based upon reformulation shall provide for periodic increments of progress including but not limited to:

(a) Submittal of research, engineering plans, and formulation,

(b) Operating and maintenance procedures,

(c) Schedules for research and development,

(d) Purchase orders for reformulations,

(e) Commencement and completion of process modification, product marketability, and

(f) Date by which regulatory emissions limitation will be achieved.

19.8.4 Compliance schedules submitted in accordance with the requirements of Subsection 19.8.1 are subject to review and approval by the Director.